SEQUENCE LISTING

<110> Biogen Idec MA Inc.
Prentice, Holly

<120> HIGH EXPRESSION LOCUS VECTOR BASED ON
FERRITIN HEAVY CHAIN GENE LOCUS

<130> 2159.058PC01/EKS/LMB

<140> PCT/US2003/033433
<141> 2003-10-22

<150> US 60/421,252
<151> 2002-10-24

<160> 41

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 563
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (346)...(459)

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ccggagcgcg cctgacgcag gatcccgcta taaagtgcgg cccgctggtc cctacgccag 180
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gctcgacccc tccgaccccc gtccggccgc tttgagcctg agcccttttgc aacttcgtcg 300
ctccgccgct ccagcgtcgc ctccgcgcct cgtccagccg ccatc atg acc acc gcg 357
Met Thr Thr Ala
1

tct ccc tcg caa gtg cgc cag aac tac cac cag gac tcg gag gct gcc 405
Ser Pro Ser Gln Val Arg Gln Asn Tyr His Gln Asp Ser Glu Ala Ala
5 10 15 20

atc aac cgc cag atc aac ctg gag ttg tat gcc tcc tac gtc tat ctg 453
Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser Tyr Val Tyr Leu
25 30 35

tcc atg gtgagtgcgg cctggccttt gcgggggcgg aaagagggtg cggcctggcc 509
Ser Met

tcccttgggc cacttggtga gctggcggag ggtgggttgg ggcgtggctg cggg 563

<210> 2
<211> 38
<212> PRT
<213> Rattus norvegicus

<400> 2

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Tyr Val Tyr Leu Ser Met
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<210> 3
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<212> DNA
<213> Rattus norvegicus

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taggaggcat acaactccag gttgatctgg cggttgatgg cagcctccga gtcctggtgg 180
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<210> 4
<211> 232
<212> DNA
<213> Rattus norvegicus

<220>
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<222> (51)...(197)

<400> 4
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Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys Tyr Phe
         5                  10                  15

ctc cat caa tct cat gaa gag agg gaa cat gct gag aaa ctg atg aag 152
Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu Met Lys
     20                  25                  30

ctg cag aac cag cga ggt gga cga atc ttc ctg cag gat atc aag 197
Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile Lys
 35                  40                  45
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<210> 5
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<213> Rattus norvegicus

<400> 5
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Tyr Phe Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu
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            20                  25                  30
Met Lys Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile
        35                  40                  45
Lys
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<210> 6
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tgatggagaa agtatttggc aaagttcttc agggccacat catcccggtc aaaataacaa 180
gactgaaagt ggaaagggta tttgttattg atccccacag caaggcagat gc 232

<210> 7
<211> 764
<212> DNA
<213> Rattus norvegicus

<220>
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<221> CDS
<222> (252)...(413)

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                                     1   5

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Glu Ser Gly Leu Asn Ala Met Arg Cys Ala Leu His Leu Glu Lys Ser
         10   15   20

gtg aat cag tca cta ctg gaa ctt cac aaa ctg gct act gac aag aat 150
Val Asn Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys Asn
     25   30   35

gat ccc cac gtgagtatca gaaacacggg gtgagtggag atgatttgcc 199
Asp Pro His
 40

acagggcttg ggagagctga ccagtaaccc tgtcccatgt tctctttcct ag tta tgt 257
                                                    Leu Cys

gac ttc att gag acg cat tac ctg aat gag cag gtg aaa tcc att aaa 305
Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser Ile Lys
 45   50   55   60

gaa ctg ggt gac cac gtg acc aac tta cgc aag atg gga gcc cct gaa 353
Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala Pro Glu
                 65   70   75

tct ggc atg gca gaa tat ctc ttt gac aag cac acc ctg gga cac ggt 401
Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly His Gly
             80   85   90
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Asp Glu Ser  *
         95

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cttaaaagtt ctttaatttg taccatttct tcaaataaag aattttggta cccagctctt    573
gttgtgattg aggatgagcg caccagcttc ccttgcgtcg gctatataac cacactgcaa    633
cgcctgaaag aatatttatt aaactcgtag ttggggaaag atagtgaaag acaggtgtgt    693
tcagacagga ctaagcagtc ctggttctga gttacctgcc agactgccat gggaacatat    753
tcttgagtgt c                                                        764

<210> 8
<211> 42
<212> PRT
<213> Rattus norvegicus

<400> 8
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            20                  25                  30
Lys Leu Ala Thr Asp Lys Asn Asp Pro His
        35                  40

<210> 9
<211> 53
<212> PRT
<213> Rattus norvegicus

<400> 9
Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser
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Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala
            20                  25                  30
Pro Glu Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly
        35                  40                  45
His Gly Asp Glu Ser
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<210> 10
<211> 764
<212> DNA
<213> Rattus norvegicus

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tctttcaggc gttgcagtgt ggttatatag ccgacgcaag ggaagctggt gcgctcatcc    180
tcaatcacaa caagagctgg gtaccaaaat tctttatttg aagaaatggt acaaattaaa    240
gaacttttaa gcagatgttt tggtgcaact tatagaaaag ataaaggcag cctgacatgc    300
atgcactgcc tcagtgagcc agtaaagtca catggccttg gggacgtcag cttagctctc    360
atcaccgtgt cccagggtgt gcttgtcaaa gagatattct gccatgccag attcaggggc    420
tcccatcttg cgtaagttgg tcacgtggtc acccagttct ttaatggatt tcacctgctc    480
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actggtcagc tctcccaagc cctgtggcaa atcatctcca ctcaccccgt gtttctgata    600
ctcacgtggg gatcattctt gtcagtagcc agtttgtgaa gttccagtag tgactgattc    660
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<210> 11
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<211> 2045
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<221> CDS
<222> (1132)...(1279)

<221> CDS
<222> (1495)...(1622)

<221> CDS
<222> (1715)...(1873)

<221> misc_feature
<222> (1)...(2045)
<223> n = A,T,C or G

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ttccccgcct tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc 180
aggcagccct gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag 240
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aaagtttttt ctctgcacta atgtggagcc atagaaccct tgataaagcc aagtcccaag 1020
tttgttttcc catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat 1080
tgcatctgcc ttgctgtggg gatcaataac aaataccctt tccactttca g tct tgt 1137
Ser Cys
1

tat ttt gac cgg gat gat gtg gcc ctg aag aac ttt gcc aaa tac ttt 1185
Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys Tyr Phe
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ctc cat caa tct cat gaa gag agg gaa cat gct gag aaa ctg atg aag 1233
Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu Met Lys
20 25 30

ctg cag aac cag cga ggt gga cga atc ttc ctg cag gat atc aag g 1279
Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile Lys
35 40 45

taagtagact atgggactgc gttaaatgag cagtnnnnnn nnnnnnnnnn nnnnnnnnnn 1339
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nnnnctgcag atgaattgac atgtttcttt gattc ag aaa cct gac cgt gat gac 1514
Lys Pro Asp Arg Asp Asp
50 55

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tgg gag agc ggg ctg aat gca atg agg tgt gca ctg cac ttg gaa aag     1562
Trp Glu Ser Gly Leu Asn Ala Met Arg Cys Ala Leu His Leu Glu Lys
            60                  65                  70

agt gtg aat cag tca cta ctg gaa ctt cac aaa ctg gct act gac aag     1610
Ser Val Asn Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys
        75                  80                  85

aat gat ccc cac gtgagtatca gaaacacggg gtgagtggag atgatttgcc         1662
Asn Asp Pro His
     90

acagggcttg ggagagctga ccagtaaccc tgtcccatgt tctctttcct ag tta tgt   1720
                                                        Leu Cys


gac ttc att gag acg cat tac ctg aat gag cag gtg aaa tcc att aaa     1768
Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser Ile Lys
 95                  100                 105                 110

gaa ctg ggt gac cac gtg acc aac tta cgc aag atg gga gcc cct gaa     1816
Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala Pro Glu
                115                 120                 125

tct ggc atg gca gaa tat ctc ttt gac aag cac acc ctg gga cac ggt     1864
Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly His Gly
            130                 135                 140

gat gag agc taagctgacg tccccaaggc catgtgactt tactggtcac             1913
Asp Glu Ser
        145

tgaggcagtg catgcatgtc aggctgcctt tatcttttct ataagttgca ccaaaacatc   1973
tgcttaaaag ttctttaatt tgtaccattt cttcaaataa agaattttgg tacccagctc   2033
ttgttgtgat tg                                                      2045

<210> 12
<211> 49
<212> PRT
<213> Artificial Sequence

<220>
<223> Syntheticaly generated peptide

<400> 12
Ser Cys Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys
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Tyr Phe Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu
            20                  25                  30
Met Lys Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile
        35                  40                  45
Lys


<210> 13
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
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<223> Syntheticaly generated peptide

<400> 13
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Ala Leu His Leu Glu Lys Ser Val Asn Gln Ser Leu Leu Glu Leu His
            20   25   30
Lys Leu Ala Thr Asp Lys Asn Asp Pro His
        35   40

<210> 14
<211> 53
<212> PRT
<213> Artificial Sequence

<220>
<223> Syntheticaly generated peptide

<400> 14
Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser
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Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala
            20   25   30
Pro Glu Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly
        35   40   45
His Gly Asp Glu Ser
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<210> 15
<211> 1153
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

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tttgttttcc catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat 1080
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<210> 16
<211> 191
<212> DNA

<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 16
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tgttgtgatt g 191

<210> 17
<211> 1312
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

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ttccccgcct tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc 180
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tacaaataca ctgagtgcct aaaactgaaa atcaaagctt ctcccaatgt atttgtgcta 780
aaatacaatg ccctcagttc ttaaccaggt aatcagcagt tggctgtcta gctgaaaacc 840
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ctcccaatgt agggcacttt agcacccccc ctctcagaca aatagatatg gccttggctt 960
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aggctgcctt tatcttttct ataagttgca ccaaaacatc tgcttaaaag ttctttaatt 1260
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<210> 18
<211> 1532
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 18
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ggtgagtgcg gcctggcctt tggcggggcg gaaagagggt gcggcctggc ctcccttggg 240
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gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag gcacgtcata 420
acacccgtgt tttgaagcct tagggctgta caactgtcag cctctccaat caaccctgca 480
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ttatcgctag gaatctcccc ttctgtaatc accctgacct tgccaaggca tctagagtac      780
tgtacgtttt taatttttat tttgcaccag ttgttgctta ctaacagaag tagtaggtaa      840
catacttgtt ggaaaaagcc cacggttggg aaaaaaccat tatcgtggaa tacaaataca      900
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catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat tgcatctgcc     1260
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tatcttttct ataagttgca ccaaaacatc tgcttaaaag ttctttaatt tgtaccattt     1440
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<210> 19
<211> 139
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (13)...(126)

<400> 19
ccagccgcca tc atg acc acc gcg tct ccc tcg caa gtg cgc cag aac tac      51
              Met Thr Thr Ala Ser Pro Ser Gln Val Arg Gln Asn Tyr
               1               5                  10

cac cag gac tcg gag gct gcc atc aac cgc cag atc aac ctg gag ttg        99
His Gln Asp Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu
     15                  20                  25

tat gcc tcc tac gtc tat ctg tcc atg gtgagtgcgg cct                   139
Tyr Ala Ser Tyr Val Tyr Leu Ser Met
 30                  35


<210> 20
<211> 38
<212> PRT
<213> Rattus norvegicus

<400> 20
Met Thr Thr Ala Ser Pro Ser Gln Val Arg Gln Asn Tyr His Gln Asp
 1               5                  10                  15
Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser
            20                  25                  30
Tyr Val Tyr Leu Ser Met
        35

<210> 21
<211> 139
<212> DNA
<213> Rattus norvegicus

<400> 21
aggccgcact caccatggac agatagacgt aggaggcata caactccagg ttgatctggc      60
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ggttgatggc agcctccgag tcctggtggt agttctggcg cacttgcgag ggagacgcgg 120
tggtcatgat ggcggctgg 139

<210> 22
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 22
ccagccgcca tcatggtgag tgcggcct 28

<210> 23
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 23
aggccgcact caccatgatg gcggctgg 28

<210> 24
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 24
cagagtcgcc gcggtttcct gcttcaacag tgcttgaacg gaacccggtg ctcgacccct 60
ccgacccccg tccggccgct ttgagcc 87

<210> 25
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 25
ggctcaaagc ggccggacgg gggtcggagg ggtcgagcac cgggttccgt tcaagcactg 60
ttgaagcagg aaaccgcggc gactctg 87

<210> 26
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 26
cagagtcgcc gcggtaccgg tgctcgaccc ctccgacccc cgtccggccg ctttgagcc 59

<210> 27

<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 27
ggctcaaagc ggccggacgg gggtcggagg ggtcgagcac cggtaccgcg gcgactctg 59

<210> 28
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 28
actttcagct gctagcggcc gcgctgacgt ccccaaggcc at 42

<210> 29
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
acgtcagcgc ggccgctagc agctgaaagt ggaaagggta t 41

<210> 30
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 30
ctttccattt aaatctgcta gcggccgctg acgtc 35

<210> 31
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 31
tagcagattt aaatggaaag ggtatttgtt attgatc 37

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 32
ctgtgagatc tgttcgaatg g 21

<210> 33
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
tgcagacact ctagacaagc ttaccagct 29

<210> 34
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<221> misc_feature
<222> (1)...(24)
<223> n = A,T,C or G

<400> 34
cagnnnnnnn nnnnnnnnnn nnnn 24

<210> 35
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 35
cagctgctgc tgctgctgct gctgggc 27

<210> 36
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<221> misc_feature
<222> (1)...(33)
<223> n = A,T,C or G

<400> 36
nnnngcggcc gcnnnnnnnn nnnnnnnnnn nnn 33

<210> 37
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 37
ttttgcggcc gcagctcatg tctgctcgaa gcggcc 36

<210> 38
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated oligonucleotide

<221> misc_feature
<222> (1)...(41)
<223> n = A,T,C or G

<400> 38
ccatttcagn nnnnnnnnnn nnnnnnngcg gccgctgacg t 41

<210> 39
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Example for SEAP

<400> 39
ccatttcagc tgctgctgca gacatgagcg gccgctgacg t 41

<210> 40
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 40
aacggttgac gtctgtggtc gac 23

<210> 41
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 41
gtcgaccaca gacgtcaacc gtt 23